

**Remarks**

Claims 4, 6 and 8-34 are pending herein. By this Amendment, claims 1-3 have been cancelled; claims 4, 6 and 8-33 have been amended; and new claim 34 has been added. Claims 5 and 7 were previously cancelled.

Cancelled claims 1 and 3 have been partially rewritten as new claim 34. New claim 34 further recites that the polydispersity of the polymer or copolymer ranges from about 1.8 to about 1.9. Support for this recitation can be found in the specification, e.g., in Example 1 (page 23, line 16), Example 3 (page 24, line 27) and Example 6 (page 26, line 22). In addition, claim 34 recites that  $F_{SFR}$  is equal to 1 or 2 and that  $F_{INIT}$  is equal to 1. Support for these recitations can be found, e.g., in the specification at page 3, lines 2 and 8, and page 5, lines 13 and 17.

Claims 9, 12, 14, 16, 18, 19, 20, 21, 22, 23, 26, 27 and 28 have been amended to depend from or refer to claim 34 rather than cancelled claim 1. Claims 6 and 8 have been amended to depend from claim 34 rather than cancelled claims 5 and 7, respectively.

Claims 4, 6, 8-20, 24, 25 and 28-33 have been amended to replace the recitation "characterized in that" with the term --wherein--.

Claims 21-23, 26 and 27 have been amended to include the contents of cancelled claims 1 and 3, and to recite that that the polydispersity of the polymer or copolymer ranges from about 1.8 to about 1.9 and that  $F_{SFR}$  is equal to 1 or 2 and  $F_{INIT}$  is equal to 1.

In the Office Action, claim 1 is rejected under 35 U.S.C. §112, second paragraph; and claims 1-4, 6 and 8-33 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 5,610,250 to Veregin et al. ("Veregin").

In view of the amendments and remarks herein, Applicant respectfully requests reconsideration and withdrawal of the rejections set forth in the Office Action.

**I. Rejection under 35 U.S.C. §112**

Claim 1 is rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which

Applicant regards as the invention. According to the Office Action, claim 1 is indefinite because, in the reply filed February 9, 2000, Applicant used underlining in such a manner that it was unclear whether the underlining was intended to appear in the patent.

Claim 1 has been cancelled and replaced by new claim 34. Applicant respectfully submits that claim 34 is not indefinite.

## **II. Rejection under 35 U.S.C. §103(a)**

Claims 1-4, 6 and 8-33 are rejected under 35 U.S.C. §103(a) as being unpatentable over Veregin. As noted above, claims 1 and 3 have been cancelled and their contents incorporated into new claim 34. Claim 2 has also been cancelled. In addition, claim 34 recites that polydispersity of the polymer or copolymer ranges from about 1.8 to about 1.9 and that  $F_{SFR}$  is equal to 1 or 2 and  $F_{INIT}$  is equal to 1. Claims 4, 9-20, 28 and 29 depend directly or indirectly from claim 34. Claims 21, 22, 23, 26 and 27 have been amended to include the polydispersity range and the relationships between  $F_{SFR}$ , (SFR),  $F_{INIT}$  and (INIT) recited in claim 34 and to recite that  $F_{SFR}$  is equal to 1 or 2 and that  $F_{INIT}$  is equal to 1. Claims 24 and 25 depend from claim 21, claims 30 and 32 depends from claim 22, and claims 31 and 33 depend from claim 23.

Applicant respectfully submits that 4, 6 and 8-34 would not have been obvious over Veregin.

In Applicant's claim 34, the product formed has a polydispersity of from about 1.8 to about 1.9, and the relationship between the monomer, the stable free radical and the initiator is as follows:

$$\frac{F_{SFR} \times (SFR)}{F_{INIT} \times (INIT)} < 0.1;$$

wherein  $F_{SFR} \times (SFR)$  ranges from 0.0001 to 0.2 mol, and  
further wherein  $F_{INIT} \times (INIT)$  ranges from 0.1 to 20 mol,

wherein:

(SFR) represents the number of moles of stable free radical in the polymerization or copolymerization medium,

$F_{SFR}$  represents the functionality of the stable free radical and is equal to 1 or 2,

(INIT) represents the number of moles of polymerization or copolymerization initiator in the polymerization or copolymerization medium, and

$F_{INIT}$  represents the functionality of the initiator and is equal to 1.

At col. 16, lines 58-60, Veregin teaches a molar ratio of monomer to stable free radical agent to free radical initiator of from about 50:0.2:1.0 to about 20,000:2.5:1.0. At col. 24, lines 26-29, Veregin teaches a molar ratio of monomer to stable free radical agent to free radical initiator of from about 6.0:0.2:1 to about 10,000:2.5:1, preferably from about 125:2.0:1 to about 7000:1.3:1.

Veregin does not teach a process for making a polymerization or copolymerization product having a polydispersity of from about 1.8 to about 1.9, wherein the monomer, stable free radical and initiator have the relationship set forth above and in Applicant's claims.

As noted above, in Applicant's claim 34, per 100 moles of the monomer, the ratio of  $F_{SFR} \times SFR$  to  $F_{INIT} \times INIT$  is less than 0.1;  $F_{SFR} \times (SFR)$  ranges from 0.0001 to 0.2 mol;  $F_{INIT} \times (INIT)$  ranges from 0.1 to 20 mol;  $F_{SFR}$  is equal to 1 or 2; and  $F_{INIT}$  is equal to 1. Thus:

if  $F_{SFR} = 1$  and  $F_{INIT} = 1$ , then the ratio of (SFR) to (INIT) is less than 0.1:1; and

if  $F_{SFR} = 2$  and  $F_{INIT} = 1$ , then, using the formula

$$\frac{F_{SFR} \times (SFR)}{F_{INIT} \times (INIT)} < 0.1,$$

the ratio of (SFR) to (INIT) is  $2(SFR)/1(INIT) < 0.1$ , i.e., less than 0.05:1.

Thus, in Applicant's claim 34, the ratio of (SFR):(INIT) is less than 0.1 or less than 0.05:1, per 100 moles of monomer.

As pointed out above, in Veregin, the ratio of (SFR):(INIT), per 50-20,000 moles of monomer, is 0.2-2.5:1. Thus, the (SFR):(INIT) ratio in Veregin is greater than that used in Applicant's claimed invention. Veregin does not teach or suggest an (SFR):(INIT) ratio of less than 0.1. Veregin does not teach or suggest a polymerization process that provides a product having a polydispersity of from about 1.8 to about 1.9, wherein the (SFR):(INIT) ratio is less than 0.1. Therefore, for at least this reason, Applicant submits that the processes set forth in the instant claims would not have been obvious over Veregin.

### **III. Conclusion**

In view of the amendments and remarks herein, Applicant respectfully requests that the rejections be withdrawn and that claims 4, 6 and 8-34 be allowed.

Respectfully submitted,

  
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